

X-RAY TUBE COOLANT VOLUME CONTROL SYSTEM

Abstract

An imaging tube coolant volume control system (14) for an imaging tube (18) includes a compensation tank (80) that is configured to fluidically couple an imaging tube cooling circuit (11). The compensation tank (80) includes a cooling fluid (17) and a compensation-dividing member (100). The member (100) is adjustable in response to the change in volume of the cooling fluid (17). An overflow vessel (82) is fluidically coupled to the compensation tank (80). A compensation valve (86) is coupled between the compensation tank (80) and the overflow vessel (82) and allows flow of the cooling fluid between the compensation tank (80) and the overflow vessel (82) when pressure of the cooling fluid (17) is greater than or equal to a first predetermined pressure level.